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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,385	08/02/2001	Huajia Li	9548.USWO	7134
23552	7590	07/14/2004	EXAMINER	
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			WILLIAMS, LAWRENCE B	
			ART UNIT	PAPER NUMBER
			2634	

DATE MAILED: 07/14/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/830,385

Applicant(s)

LI, HUAJIA

Examiner

Lawrence B Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2001.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,2 and 7-10 is/are rejected.
7) ☒ Claim(s) 3-6 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 02 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. This application has been filed with informal drawings, which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Specification

2. The abstract of the disclosure is objected to because:
 - a.) Applicant uses form and legal phraseology, "said" throughout the abstract.
 - b.) Applicant uses two paragraphs for the abstract.

Correction is required. See MPEP § 608.01(b).

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to **a single paragraph** on a separate sheet within the range of **50 to 150** words. It is important that the abstract not exceed **150** words in length since the space provided for the abstract on the computer tape used by the printer is limited. The **form and legal phraseology** often used in patent claims, such as "**means**" and "**said**," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. Line 8 of the abstract is unclear. It is unclear as to what is meant by the phrase "for carrying out matched and filtering". Examiner suggests applicant rewrite this phrase.

Appropriate correction is required.

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5. Line 17 of the abstract is unclear. It is unclear as to what is meant by the phrase "and the probability are improved". Examiner suggests applicant rewrite this phrase.

Appropriate correction is required.

6. The disclosure is objected to because of the following informalities: The specification does not contain a sentence stating a cross reference to a related application.

Appropriate correction is required.

7. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.

(b) **CROSS-REFERENCE TO RELATED APPLICATIONS.**

(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.

(d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)

(e) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(f) BRIEF SUMMARY OF THE INVENTION.

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- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

8. The disclosure is objected to because of the following informalities:

a.) Various wording throughout the specification, including the claims are incomprehensible, especially expressions, equations and subscripts. Examiner has proceeded as best under these circumstances to make a comparison of the invention with the prior art.

Applicant is required to submit an amendment, which clarifies the disclosure. Applicant should be careful not to introduce any new matter into the disclosure (i.e., matter which is not supported by the disclosure as originally filed).

Appropriate correction is required.

9. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. **Examiner has found multiple grammatical errors throughout the specification.** Examiner strongly suggests applicant thoroughly review specification. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

10. Claim 1 is objected to because of the following informalities:

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a.) Claim 1 recites the limitation "the length L" in line 2. There is insufficient antecedent basis for this limitation in the claim. Examiner suggest applicant use "a length L".

Appropriate correction is required.

11. Claim 6 is objected to because of the following informalities:

a.) Claim 6 recites the limitation "the method of the largest mode" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

12. Claim 7 is objected to because of the following informalities:

a.) Claim 7 recites the limitation "the method of the largest mode" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

13. Claim 8 is objected to because of the following informalities:

a.) Claim 6 recites the limitation "the input signal" in line 3. There is insufficient antecedent basis for this limitation in the claim.

b.) Lines 3 and 4 are unclear, i.e., "The input signal...matched and filtering;".

c.) Claim 8 recites the limitation "the largest mode" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

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14. Claim 10 is objected to because of the following informalities:

a.) Claim 10 recites the limitation "the holding time" in line 2. There is insufficient antecedent basis for this limitation in the claim. Examiner suggests applicant use "a holding time".

b.) Claim 10 recites the limitation "the delay time" in line 3. There is insufficient antecedent basis for this limitation in the claim. Examiner suggests applicant use "a delay time".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

15. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

16. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to what subject matter applicant is attempting to claim beginning at line 2 with "however it does not ..." through the remainder of the claim. Examiner suggests applicant rewrite the claim to clarify.

17. Claims 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to what subject matter applicant is attempting to claim beginning at line 5 with "meanwhile, the ... via the delay unit. Examiner suggests applicant rewrite the claim to clarify.

Claim Rejections - 35 USC § 102

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

19. Claims 1, 2, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Lomp (US Patent 5,673,286).

(1) With regard to claim 1, Lomp discloses in Figs. 3, 13 and 14, a multi-selection coherent detection method, comprising the steps of: a) dividing the length L used for the signal detection into segments, performing the coherent accumulating within each segment, and obtaining total coherent results; b) performing various possible phase adjustments on those coherent results; c.) selecting a value of the adjustment result corresponding to each coherent result; d.) coherently accumulating adjustment results in each combination and obtaining coherent results; and selecting the optimum ones as the detection results (col. 5, line 55- col. 6, line 52).

(2) With regard to claim 2, it would be obvious to one skilled in the art that the segments would have to be one or the other, i.e., equal or unequal-spaced.

(3) With regard to claim 8, Lomp discloses in Figs. 13 and 14, a multi-selection coherent detection device, wherein, the said detection device comprises: a matched filter unit (141-146); two or more branch units (131, 120; 134, 130); and a branch selection unit (150). The input signal is input to the matched filter unit for carrying; out matched and filtering; the output of the matched filter unit is sent to each branch unit respectively; the phase adjustment and the coherent

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accumulation of the signal is performed in each branch unit (col. 8, lines 34-44), and then sent to the branch selection unit; the branch output of selecting the largest mode is performed by the branch selection unit (col. 6, lines 40-52).

Allowable Subject Matter

20. Claims 3-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

21. Claims 7, 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 703-305-6969. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence B. Williams

lbw
July 6, 2004



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